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ring spinning or wrap spinning places the heat-activated binder fibers uniformly and continuously around the base fibers during twist insertion or wrapping to form the spun yarn. These yarns are then plied, followed by a heating step.

The following remarks are keyed to the page, paragraph and line numbers of the Office Action of Dec. 5, 2001 (Paper 13), except as specifically noted.

On Page 2, the Examiner summarizes the disclosure of the Lofquist method with emphasis on step b), i.e., blending the bulk base fiber with heat-activated binder fibers "via conventional means such as commingling to form a blended yarn...." On Page 3, the Examiner admits that Lofquist does not expressly teach using either a ring spinning or wrap spinning technique in forming the blended yarn. Key to the Examiner's reasoning in rejecting the present claims is his finding that "blending by conventional means" includes processes such as ring spinning and wrap spinning.

The basis for this finding is stated in part at Page 3, lines 6-8, "...it is well known in the art of making yarn to form a blended binder/base yarn using a wrap spinning method as disclosed for example by Stahlecker et al. (emphasis added)." However, close examination of Stahlecker et al. fails to reveal the terms "blend", "blending", "blended" or other variant of "blend". Stahlecker et al. therefore provides no support to the proposition that wrap spinning is a well-known method of blending.

On Page 3, lines 10-13, the Examiner states, "GB'116 discloses blending binder fibers containing heat-activated adhesive to base fibers using conventional blending technique such as wrap spinning..." (emphasis added). It is respectfully submitted that this is a misstatement of GB 2,205,116A. On page 6, first paragraph of GB'116, it states that, "[i]n use with a bonding agent consisting of bonding fibres, the dispersion of the bonding fibres among the non-adhesive fibres can be achieved by conventional textile blending techniques. The blend of bonding and non-adhesive fibres may be processed to yarn form by any of the following fibre-to-yarn manufacturing techniques, woolen (condenser) spinning, semi-worsted spinning, worsted spinning, wrap spinning," It is clear that GB '116 finds a distinction between the process of blending and the process of wrap spinning.

Evidence of what the man skilled in the art understands by "blending by conventional means" is submitted as follows:

1. In the "Dictionary of Fiber & Textile Technology," Hoechst Celanese Corp., Charlotte, NC 1978, the term "blend" is defined as, "A yarn obtained when two or more staple fibers are combined in a textile process for producing spun yarns (e.g., at opening, carding or drawing)." The term "blending" is defined as the combining of staple fibers of different physical characteristics to assure a uniform distribution throughout the yarn. (Copy attached)
2. In "The Modern Textile and Apparel Dictionary," Fourth Revised Enlarged Edition, G.E. Linton, Ed., Textile Book Service, Plainfield, NJ, 1973, the term "blend" is defined as "[a] term used to describe a yarn obtained when two or more fibers are combined in the spinning process." The term "blending" is defined as "[t]he combining of fibers of different colors such as heather-mixture, or of different types of fibers such as cotton or wool before spinning." (Copy attached)
3. The Declaration of Prof. Oxenham states, "In my opinion, ring spinning or wrap spinning are not means of "blending" as that term would be understood by one of ordinary skill in the textile arts."

In view of the foregoing, it is respectfully submitted that there was no motivation to combine Lofquist (US 5,478,624) with Stahlecker et al. (US 4,495,758), Scott (US 4,668,552) and GB 2,205,116 A other than with the impermissible use of hindsight. "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." (*In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicants disclosure." (*In re Vaeck*, 947 F.2d 488, USPQ2d 1438 (Fed.Cir. 1991).

It will be readily appreciated that the problem of producing carpet yarns that have excellent wear resistance, superior tuft definition, more uniform appearance, firmer carpet feel and greater resistance to shedding has been a problem of long standing. Earlier attempts at solving this problem, such as that of Lofquist ('624) and Scott ('552) represented advances in the art but did not meet all of the needs satisfied by this invention.

The subject patent application discloses novel means of addressing the problem. Mr. Bowers' Declaration makes clear the reason why the inventive yarns indeed show superior performance in carpets compared to the prior art Lofquist yarns.

In light of the foregoing remarks, it is submitted that the claims now of record, i.e. claims 1-3, are allowable and should be passed to issue. Applicants respectfully request the same.

"If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious" *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)

Claims 1-3 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatenable over claims 16, 18 and 21 of copending Application No. 08/933,822. As none of the relevant claims of either application has yet been allowed Applicant will defer proffering a terminal disclaimer in this case.

The Examiner is invited to call the undersigned attorney if there are any unresolved issues to discuss same.

Respectfully submitted,
Charles Edward Bowers

By Virginia Sziget (Andrews)
Virginia Sziget (Andrews)
Applicants' Attorney
Reg. No. 29,039

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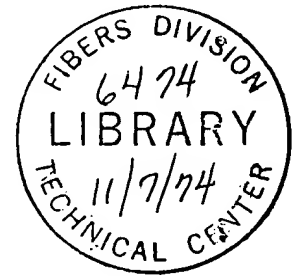
THE MODERN TEXTILE AND APPAREL DICTIONARY

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GEORGE E. LINTON, PhD, TexScD

PROFESSOR EMERITUS, TEXTILE DEPARTMENT, FASHION INSTITUTE;
TEXTILE EDITOR FOR *AMERICAN FABRICS MAGAZINE*, NEW YORK CITY
TRUSTEE, TEXTILE MUSEUM, WASHINGTON, D.C. 20008

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BLEED. Spreading of loosened or free color into another area or part of a fabric.

BLEEDING. 1. The running of color from wet dyed material onto a white material next to it. 2. When colors run together during certain finishing operations such as washing, scouring, fulling, milling. 3. The dissolving of color during washing.

BLEND. A term used to describe a yarn obtained when two or more fibers are combined in the spinning process.

BLENDED FABRIC. One which contains blended yarns in either the warp or the filling.

BLENDED YARN. Made by mixing two or more fibers before spinning.

BLENDING. 1. The combining of fibers of different colors, such as heather-mixture, or of different types of fibers such as cotton and wool before spinning. 2. Term is used for the dyeing of pale furs to make them more attractive. 3. The mixing of small amounts of same fiber type from many lots, to produce a uniform result.

BLENDING, COTTON. Proper distribution of the stock must be made in the storage bins. The bales, when the ties, bands, covering, and bagging have been removed, must be allowed to open up naturally prior to manipulation. Cotton from one bale should be spread out on the floor of the mixing bin in a thin layer. Then cotton from another bale should be placed on top of the first layer. This procedure continues until the amount desired has been built up. No two bales of cotton that have the same characteristics and properties should be run together, unless absolutely necessary.

BLENDING MACHINE. A group of devices or attachments that are synchronized to proportion definite amounts of various grades or qualities of stocks which are to be blended together. May be used for grades of the same type of fiber, or for a series of different fibers that are to be manipulated.

BLENDING RESERVE. A hopper which provides a uniform flow of cotton to the finisher beater of a single-unit cotton picker machine. This high rectangular box extends the full picker width, and is equipped with elevating aprons to carry the sheet of cotton from the second screen section upward to the cleaning section, where it is dropped into the reserve box.

BLENDS OR COMBINATIONS OF NATURAL, MAN-MADE, AND "SYNTHETIC" FIBERS. These are tak-

ing on increasing importance in fabrics of today and tomorrow. Through the use of such combinations, not only is there effective replacement of some of the scarcer natural fibers, but fabrics made from combinations seem to have novel effects and qualities not heretofore possible. The blending of staple fiber with wool, for example, has made possible the production not only of fabrics ideally suited for men's and women's outerwear but also such items for the home as blankets, rugs, decorative fabrics, upholstery.

In these so-called blends, the fibers combined may be any of the natural ones or any of the man-made types in spun or filament forms. These mixtures should not be considered as substitutes but as members of the textile family along with well-established fabrics seen in the market, some for many years.

The actual process of blending may be varied according to the effects which are desired. It is possible to ply the yarns by combining two or more ends which have been previously twisted together. Sometimes the blending is done in connection with the carding process, or a core yarn of one type may be used around which another yarn may be spun. Then, of course, there are many variations which can be obtained through interchanging the content and the kind of warp or filling yarns.

Individual manufacturers may employ one or all of these methods of blending fibers. The results are interesting and seem to be appreciated by the consumer public. They will doubtless play an important part in the future textile world, since some blends in fabrics are of the conservative type, others seem to be rather wild, conspicuous or "shot-about" in surface effect.

While it is generally possible to blend any or all fibers more or less, utmost attention should be given to the experimental work, fabric construction, fabric control, and marketing possibilities.

BLEY. Irish term for unbleached, beetled finish linen.

BLIND CHINTZ. Calendered or glazed chintz used for curtains and coverings.

BLINDING. The change in appearance of a fiber or yarn during dyeing, or some other wet treatment in finishing.

BLIND STITCH. This is used to fasten on trimming or bias bands where the stitch must not show on the right side of the goods. When finishing hems, it is applied by machine.

BLIND TICKING. Broad term for

a rugged union fabric of cotton and linen made on a twill weave. Patterns are of single colors or may be striped. Textures vary considerably in this sized cloth resembling bed ticking. Bed ticking, however, is not as a general rule a union in construction.

BLIND TWILL. British term for twill woven cloths in which the twill lines are not easily discernible.

BLISS TWEED. A good quality British woolen on the order of whipcord, used especially for livery and uniform garb.

BLISS TWILL. British term for the 4-up, 2-down twill weave used to make one type of whipcord fabric; the weave is angled at either 63 degrees or 70 degrees.

BLISTERED, PUCKERED. The effect produced when six or more threads form a fancy effect in material because of a light, loose, or uneven warp tension arrangement. The effect simulates seersucker and plissé, crepe, and serpentine.

BLISTER FABRICS. 1. Cotton fabrics which have this effect are:

Two-beam-warp bedspread fabrics, which are made on a Jacquard loom to give the quilted effect; one warp is used for the tension and background effect; the other, known as the slack warp, is used for the quilted effect.

Woven seersucker, made on a tension warp and a slack warp. The effect produced will give a permanent crinkled stripe.

Plissé stripe, a lightweight fabric formed by a shrinking treatment of caustic soda. The effect will flatten out if ironed much. The effect is used on lawn, print cloth and other basic cloths used to simulate woven striped seersucker. Not durable.

Woven matelassé, a cloth which is all cotton or a cotton and rayon material made of regular and crepe-twist yarns woven in dobby designs. The crepe yarns used in the cloth will pucker up in the shrinking process and form the quilted or blister effects.

Caustic-soda printed organdy. May have large or small blister-crepe effects.

2. Silk blister material, made on a Jacquard loom because of the opportunity afforded for rather elaborate effects which are popular in some silks.

3. Some "crepe-effect" fabrics developed by careful shrinkage and used in women's wear and in children's garments.

BLOBBY WOOL. Spongy, resilient, full-handle wool.

BLOCK PRINTING. Method of printing by blocks as apart from roller

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FAX 704 554 3800

BLEB RATE: The frequency of bleb formation in an extrusion operation.

BLEEDING: Loss of color by a fabric or yarn when immersed in water, a solvent, or a similar liquid medium, as a result of improper dyeing or the use of dyes of poor quality. Fabrics that bleed can cause staining of white or light shade fabrics in contact with them while wet.

BLEND: 1. A yarn obtained when two or more staple fibers are combined in a textile process for producing spun yarns (e.g., at opening, carding, or drawing). 2. A fabric that contains a blended yarn (of the same fiber content) in the warp and filling.

BLENDING: The combining of staple fibers of different physical characteristics to assure a uniform distribution of these fibers throughout the yarn.

BLINDING: Loss of luster of fibers after wet processing.

BLISTER: A bulge resulting from separation of coating or laminating material from the base fabric.

BLOCK PRINTING: See PRINTING.

BLOOM: The appearance of brightness of a dyed fabric when the fabric is viewed across the top while held at eye level.

BLOOMING: See OPENING, 2.

BLOTCH: See FINISHING SPOT.

BLOTCH PRINTING: See PRINTING.

BOARDY: A term used to describe a fabric with a very stiff hand.

BOBBIN: A cylindrical or slightly tapered barrel, with or without flanges, for holding slubbings, rovings, or yarns.

BOBTEX® ICS YARN SYSTEM: A process for producing a simulated spun yarn by embedding individual fibers in a thermoplastic or adhesive coating on a filament yarn.

BODY: The compact, solid, or firm feel of a fabric.

BOILING WATER SHRINKAGE: A test designed to measure shrinkage in a cord, yarn, or high-shrinkage fiber when it is immersed in boiling water while under a tension of 0.05 grams/denier.

BOIL OFF: See SCOURING.

BOLT: A roll or piece of fabric of varying length.

BONDED FABRIC: 1. A fabric containing two or more layers of cloth joined together with resin, rubber, foam, or adhesive to form one ply. 2. See NONWOVEN FABRIC.

BONDING: 1. A process for adhesive laminating two or more fabrics or fabric and a layer of plastic foam. There are two methods: the flame method used for bonding foam and the adhesive method used for bonding face and backing

fabrics. 2. One of several processes of binding fibers into thin sheets, webs, or battings by means of adhesives, plastics, or cohesion (self-bonding). (Also see NEEDED FABRICS and NEEDLE LOOM.)

Bonding with Binder Fibers: Specially engineered low-melting-point fibers are blended with other fibers in a web, so that a uniformly bonded structure can be generated at low temperature by fusion of the binder fiber with adjacent fibers.

Point Bonding: The process of binding thermoplastic fibers into nonwoven fabric by applying heat and pressure so that a discrete pattern of fiber bonds is formed. Also called spot bonding.

Print Bonding: A process of binding fibers into a nonwoven fabric by applying an adhesive in a discrete pattern.

Saturation Bonding: A process of soaking the web with an adhesive.

Spray Bonding: A process of binding fibers into a nonwoven fabric by the spray application of a fabric adhesive.

Spray Spinning: See SPUN-BO.

Stitch Bonding: A bonding technique connected by stitches sewn or quilting.

BOND STRENGTH: 1. The amount of woven or knitted fabric from which to break the fusion points found in required to break the chemical crystalline salts. 4. See PEEL ADHESION.

BOOK CLOTH: Print cloth treated in bookbinding.

BOOK FOLD: A method of folding a fabric in half widthwise, then folding the fold edge on each side is folded equal in length to one-half the

